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Detecting Changes in Coherence in Trauma Narratives Using Latent Semantic Analysis

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Detecting Changes in Coherence in Trauma Narratives Using Latent Semantic Analysis

Introduction

When people repeatedly write about a traumatic event, their physical and mental health improve.^{1,6} Why? Perhaps people cognitively process the trauma between writing sessions. We can look at the text of these narratives to explore this.

One quantitative method of examining meaning in text is Latent Semantic Analysis (LSA),³ a program that can score the coherence of a given document.⁵

This project examines how coherence changes over time in neutral versus trauma narratives using LSA.

Method

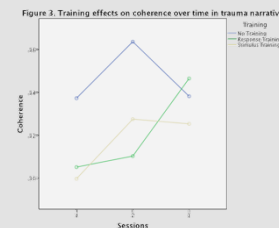
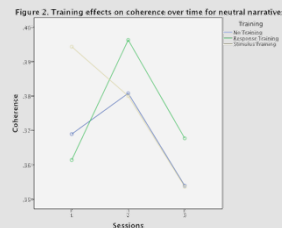
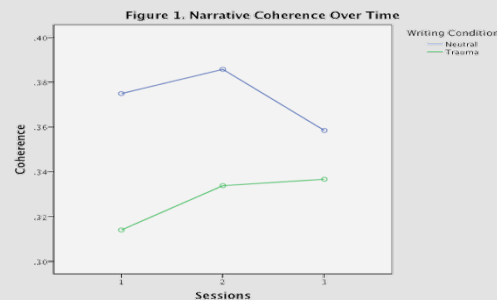
246 undergraduates wrote about a traumatic event or their daily activities for twenty minutes on 3 separate days. Participants were also given stimulus, response, or no training. The resulting narratives were submitted to LSA for coherence analysis, and an ANOVA tested the differences between groups.

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Results

Neutral narratives were **more** coherent than trauma narratives overall, but from the first session to the third session, neutral narratives **decreased** while trauma narratives **increased** in coherence.



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Conclusion

The increase in coherence between trauma writing sessions may indicate cognitive processing. As people create a more coherent narrative of the trauma, they minimize distortion of memory, which is associated with PTSD.² The bioinformational theory of imagery holds that a mental image is a framework to guide behavior, and changing thoughts or behaviors requires changing that framework.⁴ Writing, especially with response training, may help people create healthier mental representations of a traumas.

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